

CLAIMS

1. A method for communicating to a mobile node on a communications system having a base station controller unit, comprising the steps of:
 - receiving a plurality of user information packets each having a data packet for transmission from the base station controller unit;
 - preparing an adaptation layer information packet from selected data packets in the plurality of user information packets;
 - and,
 - tunneling the adaptation layer information packet from the base station controller unit.
2. The method for communicating to a mobile node in Claim 1 wherein the selected data packets used in the preparation of the adaptation layer information packet include data packets that are smaller in size than the header of the user information packet.
3. The method for communicating to a mobile node in Claim 1 wherein the selected data packets used in the preparation of the adaptation layer information packet includes data packets that are frequently transmitted from the base station controller unit.
4. The method for communicating to a mobile node in Claim 3 wherein the selected data packets used in the preparation of the adaptation layer information packet include data packets that are smaller in size than the header of the user information packet.

5. The method for communicating to a mobile node in Claim 1 wherein preparing the adaptation layer information packet includes adding a small header to each data packet.
6. The method for communicating to a mobile node in Claim 5 wherein the small header includes a channel identification value.
7. The method for communicating to a mobile node in Claim 5 wherein the small header includes a length indicator value.
8. The method for communicating to a mobile node in Claim 5 wherein the small header includes a user control value.
9. The method for communicating to a mobile node in Claim 5 wherein the small header includes an error control value.
10. The method for communicating to a mobile node in Claim 1 wherein preparing the adaptation layer information packet includes concatenating multiple data packets into the adaptation layer information packet.
11. The method for communicating to a mobile node in Claim 10 wherein preparing the adaptation layer information packet includes adding an IP header to the adaptation layer information packet.

12. The method for communicating to a mobile node in Claim 1 further comprising the step of:

deprocessing the adaptation layer information packet after receiving the adaptation layer information packet at a base transceiver station coupled to the base station controller unit.

13. The method for communicating to a mobile node in Claim 12 wherein deprocessing the adaptation layer information packet includes removal of the IP header from the adaptation layer information packet.

14. The method for communicating to a mobile node in Claim 12 wherein deprocessing the adaptation layer information packet includes separating each data packet from the adaptation layer information packet for transmission to the mobile node.

18. The method for communicating to a mobile node in Claim 17 wherein the selected data packets used in the preparation of the adaptation layer information packet include data packets that are smaller in size than the header of the user information packet.

19. The method for communicating to a mobile node in Claim 15 wherein preparing the adaptation layer information packet includes adding a small header to each data packet.
20. The method for communicating to a mobile node in Claim 19 wherein the small header includes a channel identification value.
21. The method for communicating to a mobile node in Claim 19 wherein the small header includes a length indicator value.
22. The method for communicating to a mobile node in Claim 19 wherein the small header includes a user control value.
23. The method for communicating to a mobile node in Claim 19 wherein the small header includes an error control value.

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24. The method for communicating to a mobile node in Claim 15 further comprising the step of:
- deprocessing the adaptation layer information packet after receiving the adaptation layer information packet at a base transceiver station coupled to the base station controller unit.
25. The method for communicating to a mobile node in Claim 24 wherein deprocessing the adaptation layer information packet includes removal of the IP header from the adaptation layer information packet.
26. The method for communicating to a mobile node in Claim 24 wherein deprocessing the adaptation layer information packet includes separating each data packet from the adaptation layer information packet for transmission to the mobile node.

27. A system for communicating to a mobile node in a wireless communications network comprising:

a base station controller unit coupled to a telecommunications network;

a base transceiver station unit coupled to the base station controller unit by a backhaul connection, said base transceiver station unit capable of communicating with the mobile node on the communications network;

wherein the base station controller unit receives a plurality of user information packets each having a data packet for transmission from the base station controller unit and prepares an adaptation layer information packet from selected data packets in the plurality of user information packets for subsequent tunneling to the base transceiver station unit.

28. The communication system in Claim 27 wherein the selected data packets used in the preparation of the adaptation layer information packet include data packets that are smaller in size than the header of the user information packet.

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30. The communication system in Claim 29 wherein the selected data packets used in the preparation of the adaptation layer information packet include data packets that are smaller in size than the header of the user information packet.

31. The communication system in Claim 27 wherein the base station controller unit prepares the adaptation layer information packet by adding a small header to each data packet.
32. The communication system in Claim 31 wherein the small header includes a channel identification value.
33. The communication system in Claim 31 wherein the small header includes a length indicator value.
34. The communication system in Claim 31 wherein the small header includes a user control value.
35. The communication system in Claim 31 wherein the small header includes an error control value.
36. The communication system in Claim 27 wherein the base station controller unit prepares the adaptation layer information packet by concatenating multiple data packets.
37. The communication system in Claim 27 wherein the base station controller unit prepares the adaptation layer information packet by adding an IP header to the adaptation layer information packet.

39. The communication system in Claim 38 wherein the base transceiver station unit will deprocess the adaptation layer information packet by removing the IP header from the adaptation layer information packet.

40. The communication system in Claim 38 wherein the base transceiver station unit will deprocess the adaptation layer information packet by separating each data packet from the adaptation layer information packet for transmission to the mobile node.